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G. H. DEAN

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CAP FOR BUILDING COLUMNS

Filed Oct. 11, 1929

Fig. 1.

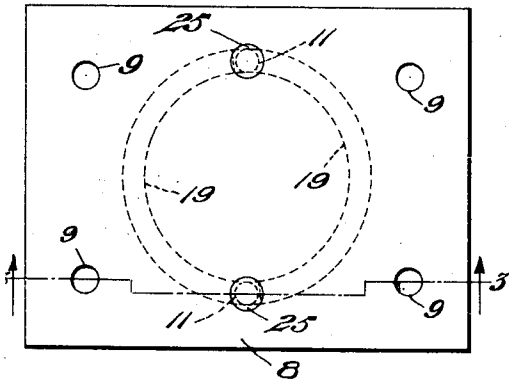


Fig. 2.

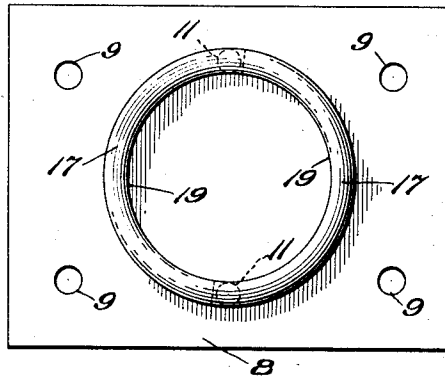


Fig. 3.

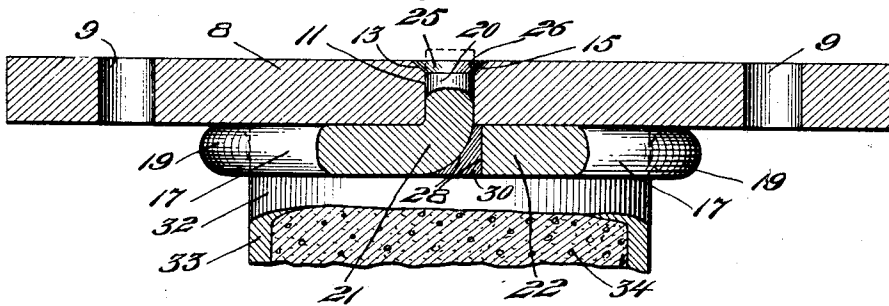
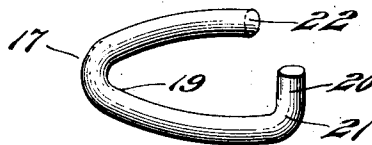


Fig. 4.



Fig. 5.



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CAP FOR BUILDING COLUMNS

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My invention relates to caps for building columns of the type where the columns consist usually of steel tubes filled with concrete reinforcing material.

5 The essential objects of my invention are to increase the strength of the cap; to facilitate the assemblage of its parts and minimize the cost of construction; and to insure a firm and complete engagement of the column and the cap; and to conform to building inspection requirements.

15 My invention consists in the means for securing the above objects which are included within the scope of the claim hereto appended.

The invention will be described in connection with the specific embodiment shown, and it will be understood that the invention is not to be limited by such specific showing except for such limitations as the claim imparts.

20 In the drawings illustrating the principle of this invention and the best mode now known to me for applying that principle,

25 Figures 1 and 2 are a top plan view and an inverted plan view respectively of a cap embodying my invention,

Figure 3, an enlarged section taken on line 3—3 of Figure 1, the showing of the column being fragmentary in character,

30 Figure 4, a perspective view of the original blank from which one of the retaining members is ultimately bent, and

Figure 5, a detail view of the blank after the bending operation.

35 Similar characters of reference indicate similar parts throughout the views.

40 In the construction illustrated the cap includes a rectangular steel crown piece 8 provided in its corner margins with the customary holes 9 for the reception of the bolts which fix the crown piece to the beam against which the top face of the former abuts.

45 The central portion of the crown piece is provided with an annular series of circular openings 11, in this instance two only, are disposed diametrically opposite each other transversely of the plate at its medial line. The upper end of each opening is countersunk to form an annular recess 13 constitut-

ing a resultant shoulder 15 which is in this case inclined.

Centering and retaining members 17 for the column are formed by bending tools from rods or cylindrical blanks of soft steel, iron 55 or other strong bendable material. Such a rod is shown in Figure 4. The major portion of each rod is bent into arcuate form producing a segment 19 disposed in a horizontal plane, and the remaining end portion of the blank is upturned at right angles to the plane 60 of the segment to form a vertical post 20 which is a sliding fit in one of the openings. One of these retaining members is shown in Figure 5. It will be observed that the bend 21 65 at the lower end of the post is a constituent part of segment 19, and constitutes the inner end of the latter, of which 22 is the outer end. The post of each one of the two members 17 is inserted into one of the two openings 11, 70 and each post is originally of such length as to extend slightly above the upper face of the crown plate, as indicated in broken lines in Figure 3. By a suitable die or tool each projecting post end is upset by hammering or pressing to form a head 25 whose annular 75 shoulder 26 snugly rests in the recesses 13 and assists in maintaining its segment in tight engagement at all points with the lower face of the crown pieces 8. The top of each head is flush with the upper face of the latter. The outer or butt end 22 of one segment is located adjacent the inner end 21 of the other segment. The resultant spaces 28 are filled by spot welding. The welds 30 conform trans- 80 versely to the sectional contour of the segments.

Although only two retaining members are herein shown it will be understood that this number is not exclusive. 85

90 In use my cap is set upon the upper end of a column 32 comprising a steel tube 33 and a concrete filling 34. The segments 19 embrace the upper portion of the tube. The floor beam resting upon the crown piece is fixed to the latter as usual by bolts passing through the bolt holes 9.

This construction lends itself to the employment of lengths of ordinary, relatively inexpensive, commercial rods, and avoids the 100

labor and expense of extensive riveting. The transversely rounded form of the segments 19 assists in seating the upper end of the column within the segments. This construction also
5 conforms to building and insurance requirements.

I claim:—

A column cap comprising a crown plate adapted to rest upon a column and provided
10 with a plurality of openings, retaining members including horizontal segments annularly disposed upon the bottom of the plate with their ends spaced from each other, posts upon corresponding ends of the segments fixed in
15 the openings, and welds in the spaces between the ends of the segments.

In testimony whereof I have affixed my signature.

GEORGE H. DEAN.

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